

From beer hops to tropical cocktails, we are beginning to see a spectacular explosion of flavors and smells, thanks to genetic modification

Someday [the flavors and smells added](#) to most foods and drinks could be created in yeast-brewing tanks rather than extracted from plants or synthesized in labs, some researchers predict. Around two decades ago, scientists found that tweaking the genes in yeast—a single-cell fungus—could cause it to produce a variety of compounds. Today yeasts are being genetically engineered to produce flavor molecules in research that could eventually lead to entirely new and unfamiliar tastes.

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To bioengineer yeast to excrete a specific flavor molecule, scientists identify the genetic code used to produce the flavor in a fruit or flower, for instance, and insert it into the yeast. *Saccharomyces cerevisiae*, the basic bread-maker's yeast, is commonly used.

"We can get certain flavors and fragrances that you may really like from a plant, but you're limited in terms of how much you can extract, or it's not feasible to grow that kind of crop," says Patrick Boyle, a synthetic biologist at Boston-based [Ginkgo Bioworks](#), whose products include flavors and aromas produced from genetically modified yeasts. He heads the "codebase" team that investigates and stores genetic code to create various flavors and other products for the biotech startup.

[**This is an excerpt. Read the original post here**](#)